


Statement of Basis

**Permit to Construct No. P-2008.0153
Project No. 62205**

**HK Contractors Inc. 00442
140 Hot Plant
Idaho Falls, Idaho**

Facility ID No. 777-00442

Final

July 9, 2019 
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**The purpose of this Statement of Basis is to satisfy the requirements of
IDAPA 58.01.01. et seq, Rules for the Control of Air Pollution in Idaho,
for issuing air permits.**

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
Btu	British thermal units
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
gph	gallons per hour
gr	grain (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per year
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance
PBR	Permit by Rule
PC	permit condition
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
PM	particulate matter
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit

RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
Rules	Rules for the Control of Air Pollution in Idaho
scf	standard cubic feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	synthetic minor
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/yr	tons per consecutive 12-calendar month period
TAP	toxic air pollutants
UTM	Universal Transverse Mercator
VOC	volatile organic compounds
yd ³	cubic yards
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

The HK Contractors Inc. 00442 plant (140 Hot Plant) is a hot-mix asphalt (HMA) plant that consists of a drum mix dryer, an asphalt tank heater, a baghouse, asphalt oil storage tanks, fuel storage tanks, and materials transfer equipment. Materials transfer equipment may include front end loaders, storage bins, conveyors, stock piles, and haul trucks.

Stockpiled aggregate is transferred to feed bins. Aggregate may consist of up to 50% recycled asphalt pavement (RAP). Aggregate is dispensed from the bins onto feeder conveyors, which transfer the aggregate to the drum mix dryer. Aggregate travels through the drum-mix dryer and when dried is mixed with liquid asphalt cement. The resulting HMA is conveyed to hot storage bins until it can be loaded into trucks for transport off site or transferred to silos for temporary storage. Electrical power is supplied to the plant from the local power grid.

Permitting History

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

February 19, 2009	P-2008.0153, Initial Permit to Construct (PTC), Permit status (S)
September 2, 2011	P-2008.0153, project 60879, PTC modification, Permit status (A, but will become S upon issuance of this permit)

Application Scope

The applicant has proposed to revise the “collocation” restriction in Permit Condition 35 of the existing PTC so that a Permit by Rule (PBR) crushing plant can be operated within 1,000 feet of this HMA plant when the HMA plant is not operating. This request is only for the Idaho Falls site where the HMA plant is currently located.

Application Chronology

March 22, 2019	DEQ received an application.
March 27, 2019	DEQ received an application fee and a processing fee.
March 29 – April 15, 2019	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
April 18, 2019	DEQ determined that the application was incomplete.
May 10, 2019	DEQ determined that the application was complete.
May 10, 2019	DEQ made available the draft permit and statement of basis for peer and regional office review.
June 21, 2019	DEQ made available the draft permit and statement of basis for applicant review.
July 9, 2019	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Devices

Table 1 EMISSIONS UNIT AND CONTROL DEVICE INFORMATION

ID No.	Source Description	Control Equipment Description	Emissions Point ID No. and Description
Drum Dryer	<u>Hot Mix Asphalt Drum Dryer:</u> Manufacturer: Astec, Inc. Model: RDB-9640 (parallel-flow drum mix) Burner Model: Phoenix Talon PT-100U-G-OH Manufacture Date: 2008 Max. Production Rate: 350 T/hr, Permitted Production Rate: 4,000 T/day, and 1,000,000 T/yr Fuel: propane, natural gas, distillate fuel oil ASTM Grade 1 and Grade 2, reprocessed fuel oil Design Aggregate: up to 50% RAP, may use petroleum-contaminated soil & aggregate Fuel consumption: 730 gal/hr	<u>Pulse Jet Baghouse</u> Manufacturer: Astec, Inc. Model: RBH-68 Type: Pulse Jet	Exit height: 30 ft Exit diameter: 4.2 ft Exit flow rate: 68,194 acfm Exit temperature: 293 °F
Tank Heater	<u>Asphalt Tank Heater</u> Fuel Types: natural gas, distillate fuel oil ASTM Grade 1 and Grade 2, reprocessed fuel oil Maximum Fuel Usage: 20.6 gal/hr	None	Exit height: 12 ft Exit diameter: 1 ft Exit temperature: 300 °F
Fugitives	<u>Materials transfer points</u> (includes fugitives) Aggregate dump to ground, Aggregate dump to conveyor, Aggregate conveyor to elevated storage	Minimized drop heights, water sprays, or equivalent control methods	Fugitive points

Emissions Inventories

This permitting action does not alter HMA plant operations, such as productions, equipment, and emissions control; therefore there are no changes to emissions inventories (EI) for the HMA plant. Refer to the statement of basis for PTC No. P-2008.0153 issued September 2, 2011 for EI details.

Ambient Air Quality Impact Analyses

Project-specific air quality analyses involving atmospheric dispersion modeling of emissions affected by the proposed PTC revision were performed by DEQ to demonstrate that affected emissions do not result in violation of a National Ambient Air Quality Standard (NAAQS) as required by Idaho Air Rules Section 203.02.

An ambient air quality impact analyses document has been crafted by DEQ. That document is part of the final permit package for this permitting action (see Appendix A).

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is initially located in Bonneville County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Because a separate modeling analysis was not provided to demonstrate compliance with applicable standards in nonattainment areas, this portable facility is not permitted for operation in nonattainment areas.

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201

Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for revising the collocation permit condition. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401

Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

Registration Procedures & Requirements for Portable Equipment (IDAPA 58.01.01.500)

IDAPA 58.01.01.500

Portable Equipment Requirements

Portable equipment needs to be registered within 90 days after permit issuance and DEQ must be notified at least 10 days prior to relocation. This requirement is assured by Permit Condition 2.28.

General Restrictions on Odors (IDAPA 58.01.01.776)

IDAPA 58.01.01.776

General Restrictions on Odors

No person shall allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids into the atmosphere in such quantities as to cause air pollution. This requirement is assured by Permit Condition 2.12.

Visible Emissions (IDAPA 58.01.01.625)

IDAPA 58.01.01.625

Visible Emissions

The sources of PM₁₀ emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Condition 2.4.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301

Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year for all criteria pollutants or 10 tons per year for any one HAP or 25 tons per year for all HAPs combined as demonstrated previously in the Emissions Inventories Section of the previous permitting action issued May 7, 2009. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006.113 and the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)

40 CFR 52.21

Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

40 CFR 60, Subpart I.....Standards of Performance for Hot Mix Asphalt Facilities

§ 60.90 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.

§ 60.92 Standard for particulate matter.

In accordance with §60.92, no owner or operator shall discharge or cause the discharge into the atmosphere from any affected facility any gases which contain particulate matter in excess of 0.04 gr/dscf or exhibit 20 percent opacity or greater. This NSPS emission limit is included as a permit condition in the PTC.

§ 60.93 Test methods and procedures.

In accordance with §60.93(a), performance tests shall use as reference methods and procedures the test methods in Appendix A of 40 CFR 60.

In accordance with §60.93(b), compliance with the particulate matter standards shall be determined by EPA Reference Method 5, and opacity shall be determined by EPA Reference Method 9. These test requirements are included as a permit condition in the PTC.

NESHAP Applicability (40 CFR 61)

The facility is not subject to any NESHAP requirements in 40 CFR 61.

MACT Applicability (40 CFR 63)

The facility is not subject to any MACT standards in 40 CFR Part 63.

Permit Conditions Review

This section describes only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action. The new text is in bold.

As requested by the applicant, only the collocation operations permit condition is revised; the other permit conditions are kept as they were though the current permit format is used.

Revised Permit Condition 2.31 reads as follows:

Collocated Operations

The permitted equipment may not collocate with any other source of emissions, including another HMA plant, concrete batch plant, sand and gravel operation, or electrical generator set **except what is permitted in "Collocation At 1523 E. 49th North Idaho Falls, Idaho 83401" permit section.**

COLLOCATION AT 1523 E. 49TH NORTH IDAHO FALLS, IDAHO 83401

A new permit section, Permit Section 3, is added to include additional requirements when a Permit by Rule (PBR) rock crushing facility is located within 1,000 feet of the HMA plant when the HMA plant is located at 1523 E. 49th North Idaho Falls, Idaho 83401.

The requirements in Permit Section 3 are based on or taken from Table 1 of the modeling memo. Refer to the modeling memo in Appendix A for explanations and refer to Permit Section 3 for detailed requirements.

The general provisions are updated using the ones in the current general permit template for an HMA plant.

In addition, as a result of addressing the facility's comments on the draft permit received on June 27, 2019, changes are made to the permit: 1) propane as a fuel type is added to Table 1.1 and Permit Condition 2.9; 2) "ppmv" in Permit Condition 2.19 is corrected to "ppm". Refer to Appendix B of the SOB for more details.

PUBLIC COMMENT OPPORTUNITY

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c. During this time, there were no comments on the application and there was not a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

APPENDIX A – AMBIENT AIR QUALITY IMPACT ANALYSES

MEMORANDUM

DATE: May 15, 2019

TO: Shawnee Chen, Permit Writer, Air Program

FROM: Kevin Schilling, Air Quality Dispersion Modeling Supervisor, Air Program

PROJECT: P-2008.0153 PROJ 62205, HK Contractors, Inc., Revision of Collocation Restriction for Hot Mix Asphalt Facility, located in Idaho Falls, Idaho.

SUBJECT: Demonstration of Compliance with IDAPA 58.01.01.203.02 (NAAQS) and 203.03 (TAPs) as it relates to air quality impact analyses.

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Acronyms, Units, and Chemical Nomenclature

AAC	Acceptable Ambient Concentration of a non-carcinogenic TAP
AACC	Acceptable Ambient Concentration of a Carcinogenic TAP
acfm	Actual cubic feet per minute
AERMAP	The terrain data preprocessor for AERMOD
AERMET	The meteorological data preprocessor for AERMOD
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
Appendix W	40 CFR 51, Appendix W – Guideline on Air Quality Models
ASOS	Automated Surface Observing System
BPIP	Building Profile Input Program
bhp	Brake horsepower
BRC	Below Regulatory Concern
CFR	Code of Federal Regulations
CMAQ	Community Multi-Scale Air Quality Modeling System
CO	Carbon Monoxide
DEM	Digital Elevation Map
DEQ	Idaho Department of Environmental Quality
DV	Design Values
EL	Emissions Screening Level of a TAP
EPA	United States Environmental Protection Agency
GEP	Good Engineering Practice
HK	HK Contractors, Inc.
HMA	Hot mix asphalt
hr	hours
IC	Internal combustion
Idaho Air Rules	Rules for the Control of Air Pollution in Idaho, located in the Idaho Administrative Procedures Act 58.01.01
ISCST3	Industrial Source Complex Short Term 3 dispersion model
K	Kelvin
lb/hr	Pounds per hour
m	Meters
m/sec	Meters per second
MMBtu	Million British Thermal Units
NAAQS	National Ambient Air Quality Standards
NAD83	North American Datum of 1983
NED	National Elevation Dataset
NO	Nitrogen Oxide
NO ₂	Nitrogen Dioxide
NO _x	Oxides of Nitrogen
NWS	National Weather Service
O ₃	Ozone
OLM	Ozone Limiting Method
Pb	Lead

PM ₁₀	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 10 micrometers
PM _{2.5}	Particulate matter with an aerodynamic particle diameter less than or equal to a nominal 2.5 micrometers
ppb	parts per billion
PRIME	Plume Rise Model Enhancement
PSD	Prevention of Significant Deterioration
PTC	Permit to Construct
PTE	Potential to Emit
PVMRM	Plume Volume Molar Ratio Method
SIL	Significant Impact Level
SO ₂	Sulfur Dioxide
TAP	Toxic Air Pollutant
tpy	Tons per year
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compounds
°F	Degrees Fahrenheit
µg/m ³	Micrograms per cubic meter of air

1.0 Summary

HK Contractors, Inc. (HK) submitted a Permit to Construct (PTC) application to revise the current PTC (P-2008.0153) for their portable hot mix asphalt (HMA) facility, currently located in Idaho Falls, Idaho. The proposed revision involved removing the colocation restriction for operation within 1,000 feet of a rock crushing facility when the HMA is operating at the Idaho Falls site. Project-specific air quality analyses involving atmospheric dispersion modeling of emissions affected by the proposed PTC revision were performed by DEQ to demonstrate that conditions affected by the revision do not result in violation of a National Ambient Air Quality Standard (NAAQS) or Toxic Air Pollutant (TAP) increment as required by the Idaho Administrative Procedures Act 58.01.01.203.02 and 203.03 (Idaho Air Rules Section 203.02 and 203.03). This memorandum provides a summary of the applicability assessment for analyses and air impact analyses used to demonstrate compliance with applicable NAAQS and TAP increments, as required by Idaho Air Rules Section 203.02 and 203.03.

HK prepared the PTC application and DEQ calculated emissions and performed ambient air impact analyses for this project. DEQ review of submitted data and DEQ analyses summarized by this memorandum addressed only the rules, policies, methods, and data pertaining to the air impact analyses used to demonstrate that estimated emission changes resulting from the proposed PTC revision will not result in a violation of any applicable air quality standard. This review did not address/evaluate compliance with other rules or analyses not pertaining to the air impact analyses. Emissions associated with the HMA facility were calculated using a DEQ-developed HMA facility emissions spreadsheet and emissions associated with a rock crushing facility were estimated using readily available emission factors.

Table 1 presents key assumptions and results to be considered in the revision of the PTC. Idaho Air Rules require air impact analyses be conducted in accordance with methods outlined in 40 CFR 51, Appendix W *Guideline on Air Quality Models* (Appendix W). Appendix W requires that air quality impacts be assessed using atmospheric dispersion models with emissions and operations of the permitted source representative of design capacity or as limited by a federally enforceable permit condition.

The submitted information and analyses: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data; 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed either a) that estimated potential/allowable emissions are at a level defined as below regulatory concern (BRC) and do not require a NAAQS compliance demonstration; b) that predicted pollutant concentrations from emissions associated with the project as modeled were below Significant Impact Levels (SILs) or other applicable regulatory thresholds; or c) that predicted pollutant concentrations from emissions associated with the project, when appropriately combined with co-contributing sources and background concentrations, were below applicable NAAQS at ambient air locations where and when the project has a significant impact; 5) showed that TAP emission increases associated with the project will not result in increased ambient air impacts exceeding allowable TAP increments. This conclusion assumes that conditions in Table 1 are representative of facility design capacity or operations as limited by a federally enforceable permit condition. The DEQ permit writer should use Table 1 and other information presented in this memorandum to generate appropriate permit provisions/restrictions to assure emissions do not exceed applicable regulatory thresholds requiring further analyses and to assure the requirements of Appendix W are met regarding emissions representative of design capacity or permit allowable rates.

Summary of Submittals and Actions

- 3/27/2019: Regulatory Start Date.
- 4/18/2019: DEQ declares the application incomplete.
- 4/24/2019: HK provided additional information and data.
- 5/10/2019: Application determined complete by DEQ.

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES	
Criteria/Assumption/Result	Explanation/Consideration
General Emission Rates. Emission rates of the HMA facility used in the air impact analyses, as listed in this memorandum, must represent maximum potential emissions as given by design capacity, inherently limited by the nature of the process or configuration of the facility, or as limited by the issued permit for the specific pollutant and averaging period.	Compliance has not been demonstrated for emission rates greater than those used in the air impact analyses.
General Permitting Applicability. Use of a PBR-regulated rock crushing facility at the HMA site does not constitute a modification that triggers the requirement to obtain a PTC, except for removal of the colocation requirement of the HMA facility permit.	<p>Emissions from crushing and screening equipment are fugitive; therefore, they are not considered in the permit applicability determination.</p> <p>Engines powering the crusher are considered “non-road engines” provided they are relocated every 12 months as required by the rock crushing Permit by Rule (PBR). Non-road engines are not subject to new source review permitting.</p>
Rock Crushing Facility Colocation Operational Restrictions:	The HMA facility cannot colocate with a rock crushing facility unless the following are met:
1) Only a rock crushing facility with a PBR may be colocated with the HMA facility.	If a non-PBR rock crusher were colocated, it could be considered as a modification to the HMA facility depending on whether the engine powering the crusher can be considered as non-road and whether the HMA facility and the crusher can be considered as one facility or two by Idaho Air Rules.
2) The rock crushing facility may only operate on days when the HMA facility is not operating.	<p>Operation of the rock crushing facility contributes to background concentrations, thereby affecting the NAAQS compliance analyses for the HMA facility sources. If the rock crushing facility does not operate on days when the HMA facility operates, then it can only contribute to concentrations on a long-term basis.</p> <p>DEQ only assessed impacts on a long-term basis for this project. If the rock crushing facility were allowed to operate on days when the HMA facility was operating, then impact analyses for short-term periods (1-hour and 24-hour) would be needed.</p>
3) Annual throughput for the rock crushing facility must be limited to 352,800 ton/year.	Emissions from the rock crushing facility were calculated using this throughput. A greater throughput could increase impacts and result in the HMA facility causing a NAAQS violation.
4) The engine (or combination of engines) used with a PBR crusher colocating with the HMA facility must be less than 4,100 brake horsepower (bhp) and not operate more than 1,800 hours/year. Alternatively, an annual limit of 7.38 E6 bhp-hour could be used to address various combinations of engines and operational hours.	<p>Collocation with a larger engine (or engines with a combined power rating of 4,100 bhp) or an engine(s) operating more than 1,800 hours/year will not assure NAAQS compliance.</p> <p>A combined power/hours limit can be used because all emissions were modeled from a single point and only annual impacts are affected by the PTC revision.</p>

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES		
Criteria/Assumption/Result		Explanation/Consideration
HMA Facility Operational Restrictions:		
1)	The drum dryer stack must be located no closer than 120 meters (394 feet) from the ambient air boundary (presumed to be the property boundary)	NAAQS compliance is not assured for operations closer to the ambient air boundary.
2)	Colocation with a rock crushing facility will be limited to the Idaho Falls site where the HMA facility is currently located.	A different setback distance between the drum dryer stack and the closest point of ambient air would be needed for other locations.
3)	Other permit provisions/limits on equipment, throughput, etc. that are present in the existing PTC must be maintained	Maintaining existing conditions is important to assure NAAQS compliance.
Air Impact Analyses for Criteria Pollutant Emissions. NAAQS compliance demonstration requirements do not directly apply to a PBR rock crushing facility colocating with the permitted HK HMA facility. As such, emissions from the crusher are assessed as a background co-contributing source.		Only PBR crushers will be used for colocation with the HMA facility, so such a change does not trigger a NAAQS compliance demonstration requirement for the crusher specifically.
Air Impact Analyses for TAP Emissions. Air impact analyses were not required for any TAP emissions.		TAP emission sources, associated with operation of a PBR rock crushing facility allowed to colocate with the HMA facility, are not subject to TAP permitting requirements of Idaho Air Rules Section 210. Section 3.1.1 of this memorandum describes regulatory applicability.

2.0 Background Information

This section provides background information applicable to the project and the Idaho Falls site where the HK HMA facility is located. It also provides a brief description of the applicable air impact analyses requirements for the project.

2.1 Project Description

The HK project proposes to modify PTC P-2008.0153 for their portable HMA facility; previously modified on September 2, 2011, to revise colocation restrictions in Section 35. The current PTC states, "The permitted equipment may not collocate with any other source of emissions, including another HMA plant, concrete batch plant, sand and gravel operation, or electrical generator set." The permit further defines "collocation" as emission sources located within 1,000 feet of permitted emission sources.

2.2 Proposed Location and Area Classification

The facility is restricted to only operate in areas designated as an attainment or unclassifiable area for sulfur dioxide (SO₂), nitrogen dioxide (NO₂), carbon monoxide (CO), lead (Pb), ozone (O₃), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM₁₀), and particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers (PM_{2.5}). The HMA facility is currently located at a site in Idaho Falls, and that site has been identified as the location where colocation with a rock crushing facility is requested.

2.3 Air Impact Analyses Required for All Permits to Construct

Idaho Air Rules Sections 203.02 and 203.03:

No permit to construct shall be granted for a new or modified stationary source unless the applicant shows to the satisfaction of the Department all of the following:

02. NAAQS. *The stationary source or modification would not cause or significantly contribute to a violation of any ambient air quality standard.*

03. Toxic Air Pollutants. *Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.*

Atmospheric dispersion modeling, using computerized simulations, is used to demonstrate compliance with both NAAQS and TAPs. Idaho Air Rules Section 202.02 states:

02. Estimates of Ambient Concentrations. *All estimates of ambient concentrations shall be based on the applicable air quality models, data bases, and other requirements specified in 40 CFR 51 Appendix W (Guideline on Air Quality Models).*

2.4 Significant Impact Level and Cumulative NAAQS Impact Analyses

If specific criteria pollutant emission increases associated with a proposed permitting project cannot qualify for a BRC exemption as per Idaho Air Rules Section 221, then the permit cannot be issued unless the application demonstrates that applicable emission increases will not cause or significantly contribute to a violation of NAAQS, as required by Idaho Air Rules Section 203.02.

The first phase of a NAAQS compliance demonstration is to evaluate whether the proposed facility/project could have a significant impact to ambient air. Section 3.1.1 of this memorandum describes the applicability evaluation of Idaho Air Rules Section 203.02. The Significant Impact Level (SIL) analysis for a new facility or proposed modification to a facility involves modeling estimated criteria air pollutant emissions from the facility or modification to determine the potential impacts to ambient air. Air impact analyses are required by Idaho Air Rules to be conducted in accordance with methods outlined in Appendix W. Appendix W requires that facilities be modeled using emissions and operations representative of design capacity or as limited by a federally enforceable permit condition.

A facility or modification is considered to have a significant impact on air quality if maximum modeled impacts to ambient air exceed the established SIL listed in Idaho Air Rules Section 006 (referred to as a "significant contribution" in Idaho Air Rules) or as incorporated by reference as per Idaho Air Rules Section 107.03.b. Table 2 lists the applicable SILs.

If modeled maximum pollutant impacts to ambient air from the emission sources associated with a new facility or modification exceed the SILs, then a cumulative NAAQS impact analysis is necessary to demonstrate compliance with NAAQS and Idaho Air Rules Section 203.02.

Table 2. APPLICABLE REGULATORY LIMITS				
Pollutant	Averaging Period	Significant Impact Levels^a (µg/m³)^b	Regulatory Limit^c (µg/m³)	Modeled Design Value Used^d
PM ₁₀ ^e	24-hour	5.0	150 ^f	Maximum 6 th highest ^g
PM _{2.5} ^h	24-hour	1.2	35 ⁱ	Mean of maximum 8 th highest ^j
	Annual	0.2	12 ^k	Mean of maximum 1 st highest ^l
Carbon monoxide (CO)	1-hour	2,000	40,000 ^m	Maximum 2 nd highest ⁿ
	8-hour	500	10,000 ^m	Maximum 2 nd highest ⁿ
Sulfur Dioxide (SO ₂)	1-hour	3 ppb ^o (7.8 µg/m ³)	75 ppb ^p (196 µg/m ³)	Mean of maximum 4 th highest ^q
	3-hour	25	1,300 ^m	Maximum 2 nd highest ⁿ
	24-hour	5	365 ^m	Maximum 2 nd highest ⁿ
	Annual	1.0	80 ^r	Maximum 1 st highest ⁿ
Nitrogen Dioxide (NO ₂)	1-hour	4 ppb (7.5 µg/m ³)	100 ppb ^s (188 µg/m ³)	Mean of maximum 8 th highest ^t
	Annual	1.0	100 ^r	Maximum 1 st highest ⁿ
Lead (Pb)	3-month ^u	NA	0.15 ^r	Maximum 1 st highest ⁿ
	Quarterly	NA	1.5 ^r	Maximum 1 st highest ⁿ
Ozone (O ₃)	8-hour	40 TPY VOC ^v	70 ppb ^w	Not typically modeled

- a. Idaho Air Rules Section 006 (definition for significant contribution) or as incorporated by reference as per Idaho Air Rules Section 107.03.b.
- b. Micrograms per cubic meter.
- c. Incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.
- d. The maximum 1st highest modeled value is always used for the significant impact analysis unless indicated otherwise. Modeled design values are calculated for each ambient air receptor.
- e. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
- f. Not to be exceeded more than once per year on average over 3 years.
- g. Concentration at any modeled receptor when using five years of meteorological data.
- h. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
- i. 3-year mean of the upper 98th percentile of the annual distribution of 24-hour concentrations.
- j. 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled. For the SIL analysis, the 5-year mean of the 1st highest modeled 24-hour impacts at the modeled receptor for each year.
- k. 3-year mean of annual concentration.
- l. 5-year mean of annual averages at the modeled receptor.
- m. Not to be exceeded more than once per year.
- n. Concentration at any modeled receptor.
- o. Interim SIL established by EPA policy memorandum.
- p. 3-year mean of the upper 99th percentile of the annual distribution of maximum daily 1-hour concentrations.
- q. 5-year mean of the 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of 1st highest modeled 1-hour impacts for each year is used.
- r. Not to be exceeded in any calendar year.
- s. 3-year mean of the upper 98th percentile of the annual distribution of maximum daily 1-hour concentrations.
- t. 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of maximum modeled 1-hour impacts for each year is used.
- u. 3-month rolling average.
- v. An annual emissions rate of 40 ton/year of VOCs is considered significant for O₃.
- w. Annual 4th highest daily maximum 8-hour concentration averaged over three years.

A cumulative NAAQS impact analysis for attainment area pollutants involves assessing ambient impacts (typically the design values consistent with the form of the standard) from potential/allowable emissions resulting from the project and emissions from any nearby co-contributing sources (including existing emissions from the facility that are unrelated to the project), and then adding a DEQ-approved background concentration value to the modeled result that is appropriate for the criteria pollutant/averaging-period at the facility location and the area of significant impact. The resulting pollutant concentrations in ambient air are then compared to the NAAQS listed in Table 2. Table 2 also lists SILs and specifies the modeled design value that must be used for comparison to the NAAQS. NAAQS compliance is evaluated on a receptor-by-receptor basis for the modeling domain.

If the cumulative NAAQS impact analysis indicates a violation of the standard, the permit may not be issued if the proposed project has a significant contribution (exceeding the SIL) to the modeled violation. If project-specific impacts are below the SIL, then the project does not have a significant contribution to the specific violations.

Compliance with Idaho Air Rules Section 203.02 is generally demonstrated if: a) applicable specific criteria pollutant emission increases are at a level defined as BRC, using the criteria established by DEQ regulatory interpretation¹; or b) all modeled impacts of the SIL analysis are below the applicable SIL or other level determined to be inconsequential to NAAQS compliance; or c) modeled design values of the cumulative NAAQS impact analysis (modeling all emissions from the facility and co-contributing sources, and adding a background concentration) are less than applicable NAAQS at receptors where impacts from the proposed facility/modification exceeded the SIL or other identified level of consequence; or d) if the cumulative NAAQS analysis showed NAAQS violations, the impact of proposed facility/modification to any modeled violation was inconsequential (typically assumed to be less than the established SIL) for that specific receptor and for the specific modeled time when the violation occurred.

2.5 Toxic Air Pollutant Analyses

Emissions of toxic substances are generally addressed by Idaho Air Rules Section 161:

Any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.

Permitting requirements for toxic air pollutants (TAPs) from new or modified sources are specifically addressed by Idaho Air Rules Section 203.03 and require the applicant to demonstrate to the satisfaction of DEQ the following:

Using the methods provided in Section 210, the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. Compliance with all applicable toxic air pollutant carcinogenic increments and toxic air pollutant non-carcinogenic increments will also demonstrate preconstruction compliance with Section 161 with regards to the pollutants listed in Sections 585 and 586.

Per Section 210, if the total project-wide emission increase of any TAP associated with a new source or modification exceeds screening emission levels (ELs) of Idaho Air Rules Section 585 or 586, then the ambient impact of the emission increase must be estimated. If ambient impacts are less than applicable Acceptable Ambient Concentrations (AACs) for non-carcinogens of Idaho Air Rules Section 585 and Acceptable Ambient Concentrations for Carcinogens (AACCs) of Idaho Air Rules Section 586, then compliance with TAP requirements has been demonstrated.

Idaho Air Rules Section 210.20 states that if TAP emissions from a specific source are regulated by the Department or EPA under 40 CFR 60, 61, or 63, then a TAP impact analysis under Section 210 is not required for that TAP. The DEQ permit writer evaluates the applicability of specific TAPs to the Section 210.20 exclusion.

3.0 Analytical Methods and Data

This section describes the methods and data used in the analyses to demonstrate compliance with applicable air quality impact requirements.

3.1 Emission Source Data

Emissions of criteria pollutants for use in required air impact analyses were calculated by DEQ for applicable averaging periods. Emissions associated with the HMA facility were calculated using a DEQ-generated emission calculation spreadsheet specifically designed for HMA facilities. Calculation of emissions from operation of the rock crushing facility were calculated using operational parameters provided by HK and emission factors readily available from EPA's AP-42, *Fifth Edition Compilation of Air Pollutant Emissions Factors, Volume 1: Stationary Point and Area Sources* (<https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors#5thed>). Table 3 provides emission rates used in the air impact analyses and Attachment 1 provides detailed emission calculations. The rates listed for the HMA facility must represent the maximum allowable rate as averaged over the specified period.

Emission rates used in the impact modeling applicability analyses and any modeling analyses, as listed in this memorandum, should be reviewed by the DEQ permit writer. Modeled criteria air pollutant emission rates must be equal to or greater than the facility's allowable emission rates.

Table 3. MODELED EMISSION RATES

Modeled Release Point	Description	Model Location Coordinates ^a (meters)		Annual Average Emission Rates (pounds/hour)	
		X	Y	PM _{2.5}	NO ₂
DRYER	HMA - Drum Dryer	0.0	0.0	2.546	6.279
SILOFILL	HMA Asphalt Silo Filling	-5.0	-5.0	0.0669	0.0
SILOLOAD	HMA - Asphalt Loadout from Silo	-5.0	-5.0	0.0596	0.0
SCREEN	HMA - Scalping Screen	5.0	5.0	0.00143	0.0
LDCONV	HMA - Aggregate Handling (Loaders and Conveyors)	0.0	0.0	0.0597	0.0
HOTOIL	HMA - Oil Heater	-5.0	5.0	0.0144	0.224
C CRSC	Crusher – Crusher and Screens	0.0	0.0	0.0167	0.0
C CVLD	Crusher – Conveyor and Loader	0.0	0.0	0.0262	0.0
C ENG	Crusher – Engine	5.0	-5.0	0.590	20.2

^a Modeled using a polar grid centered on 0.0 meters East and 0.0 meters North. Location coordinates were conservatively generated by DEQ to provide a reasonably conservative assessment of combined impacts from all sources. This approach was used because equipment is portable and detailed information on actual equipment placement was not known.

3.1.1 Modeling Applicability and Modeled Criteria Pollutant Emission Rates

Section 2.1 of this memorandum states this project involves evaluating potential ambient air impacts from changing the colocation restrictions in the existing PTC. HK requested to locate a PBR rock crushing facility within the 1,000 foot threshold defining a “collocated” source. Any PBR crusher would have the following characteristics as specified by HK:

1. Throughput $\leq 352,800$ ton/year.
2. Crushing plant powered by a diesel-fired internal combustion (IC) engine or combination of engines with a combined power rating of $\leq 4,100$ brake horsepower (bhp).
3. The IC engines powering the crusher will not operate $\geq 1,800$ hour/year.
4. The crusher and engine(s) will not operate on any day when the HMA facility is operating.
5. The crusher and engine(s) will operate under regulatory provisions of a PBR.

To evaluate air impact requirements for revising colocation restrictions, permit modification requirements are evaluated for the case of adding a crushing plant, powered by an IC engine, to an existing facility. Idaho Air Rules Section 201 states that a facility owner may not commence modification of the facility without first obtaining a PTC. Idaho Air Rules Section 006.68 defines “modification” as a physical change in, or change in the method of operation of, a stationary source which results in an emission increase. This section further clarifies in Section 006.68.c. that fugitive emissions are not to be considered in determining whether a permit is required for modification unless required by federal law. Emissions from the crushing equipment are considered by DEQ as fugitive and are not considered in permit applicability.

Permit applicability for emissions from the engine powering crushing equipment hinge on whether the engine can be considered as a “nonroad engine.” EPA air permitting programs generally address only emissions from stationary sources. Section 302(z) of the Clean Air Act defines stationary source as “any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in section [216 of the Act].” An engine that is portable or transportable, designed to be and capable of being carried or moved from one location to another, is considered nonroad; if an engine remains in one location longer than 12 months, it is no longer considered as nonroad.

HK has indicated they intend to use PBR crushing facilities to colocate with the permitted HMA facility. Since these PBR crushers include only a nonroad engine and fugitive sources, a facility would not typically be required to obtain a PTC to operate them at an existing permitted facility. However, the HMA facility PTC specifically prohibits colocation so DEQ must assess how changing that colocation restriction will otherwise affect the NAAQS compliance demonstration for the HMA facility.

The HMA facility cannot cause or significantly contribute to any short-term (1-hour through 24-hour averaging periods) NAAQS when the PBR crushing facility is operating since the crushing facility will not operate on any day when the HMA facility operates. The PBR rock crushing facility’s contribution must be evaluated for NAAQS with annual averaging periods because both facilities will operate during the applicable averaging period of the NAAQS. The impacts of the PBR crushing facility were assessed as a co-contributing source, as would any neighboring source that DEQ determines is not adequately accounted for by background concentrations used in the analyses.

3.1.2 TAPs Modeling Applicability

The proposed project, allowing colocation of a PBR rock crushing facility, has no TAP emissions that require impact analyses by Idaho Air Rules.

3.1.3 Emission Release Parameters

Table 4 lists emission release parameters, including stack height, stack diameter, exhaust temperature, and exhaust velocity for emission sources modeled in the air impact analyses. Emission point release parameters were based on information provided by the applicant in the previous HMA facility application and DEQ assumptions based on similar sources with a margin of conservatism (less favorable dispersion characteristics such as shorter stack heights, lower flow volumes, etc). Table 5 lists the release parameters for the volume and area sources in the facility. Attachment 1 provides more detailed descriptions of emission release parameters used in the impact analyses.

Table 4. POINT SOURCE STACK PARAMETERS								
Release Point	Description	Coordinates ^a		Stack Height (m)	Stack Gas Flow Temp. (K) ^c	Stack Gas Flow Velocity (m/sec) ^d	Modeled Stack Diameter (m)	Orient. Of Release ^e
		X East (m)	Y North (m)					
DRYER	HMA - Drum Dryer	0.0	0.0	9.1	418	25	1.3	V
SILOFILL	HMA Asphalt Silo Filling	-5.0	-5.0	9.0	346	0.1	3.0	V
SILOLOAD	HMA - Asphalt Loadout from Silo	-5.0	-5.0	3.5	346	0.1	3.0	V
HOTOIL	HMA - Oil Heater	-5.0	5.0	3.7	422	10	0.30	V
C ENG	Crusher – Engine	5.0	-5.0	3.0	600	44.6	0.19	R

^a Modeled using a polar grid centered on 0.0 meters East and 0.0 meters North.

^b Kelvin.

^c Meters per second.

^d Vertical uninterrupted (V), rain-capped (R), or horizontal release (H).

Table 5. VOLUME AND AREA SOURCE RELEASE PARAMETERS						
Source	Description	Coordinates ^a		Release Height (m)	Horizontal Dimension (m)	Vertical Dimension (m)
		X East (m) ^b	Y North (m)			
SCREEN	HMA - Scalping Screen	5.0	5.0	3.0	0.70	0.70
LDCONV	HMA - Aggregate Handling (Loaders and Conveyors)	0.0	0.0	3.0	7.0	1.4
C CRSC	Crusher – Crusher and Screens	0.0	0.0	3.0	2.33	1.4
C CVLD	Crusher – Conveyor and Loader	0.0	0.0	3.0	6.98	1.4

^a Modeled using a polar grid centered on 0.0 meters East and 0.0 meters North.

^b Meters.

3.2 Background Concentrations

Background concentrations are used if a cumulative NAAQS impact analysis is needed to demonstrate compliance with applicable NAAQS. Background concentrations were obtained using a tool that provides site-specific estimates using regional scale modeling and monitoring data for July 2014 through June 2017. The background concentration tool was a NW-AIRQUEST collaboration of Idaho, Washington, and Oregon, and the tool is available at <https://idahodeq.maps.arcgis.com/apps/MapSeries/index.html?appid=0c8a006e11fe4ec5939804b873098dfe>. Design value background concentrations for the Idaho Falls site are provided in Table 6.

Table 6. DEQ-RECOMMENDED AMBIENT BACKGROUND CONCENTRATIONS		
Pollutant	Averaging Period	Background Concentration ($\mu\text{g}/\text{m}^3$)^{a,b}
PM _{2.5} ^c	Annual	6.73
NO ₂ ^d	Annual	14.08 (7.49 ppb ^e)

a. Micrograms per cubic meter, except where noted otherwise.

b. NW AIRQUEST ambient background lookup tool, July 2014 – June 2017.

c. Particulate matter with an aerodynamic diameter of 2.5 microns or less.

d. Nitrogen dioxide.

e. Parts per billion by volume.

3.3 Impact Modeling Methodology

This section describes the modeling methods used by DEQ to demonstrate NAAQS compliance for applicable averaging periods.

3.3.1 General Overview of Impact Analyses

DEQ generated the project-specific air pollutant emission inventory and performed air impact analyses based on information submitted by the applicant and permit conditions of the existing HMA facility PTC. The submitted information/analyses, in combination with results from DEQ's air impact analyses, demonstrate compliance with applicable air quality standards to DEQ's satisfaction, provided the facility is operated as described in the submitted application and in this memorandum.

Table 7 provides a brief description of parameters used in the modeling analyses.

Table 8. MODELING PARAMETERS		
Parameter	Description/Values	Documentation/Addition Description
General Facility Location	Idaho Falls, Idaho	The area is an attainment or unclassified area for all criteria pollutants. The HMA facility is portable, as allowed by the existing PTC.
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 18081.
Meteorological Data	Idaho Falls surface data; Boise upper air data	See Section 3.3.4 of this memorandum for additional details of the meteorological data.
Terrain	Not Considered	Immediate area is effectively flat for dispersion effect consideration.
Building Downwash	Not Considered	There are no buildings in the immediate area.
NOx Chemistry	Tier 1	Tier 1 assumes full conversion of NO to NO ₂ . See Section 3.3.7.
Receptor Grid	Grid 1	Polar grid with 10-meter ring spacing from 100 meters to 150 meters from point 0.0 meters East, 0.0 meters North. Radial directions are specified at 10 degree intervals.
	Grid 2	Polar grid with 25-meter ring spacing from 150 meters to 250 meters from point 0.0 meters East, 0.0 meters North. Radial directions are specified at 10 degree intervals.
	Grid 3	Polar grid with 50-meter ring spacing from 250 meters to 500 meters from point 0.0 meters East, 0.0 meters North. Radial directions are specified at 10 degree intervals.

3.3.2 Modeling Methodology

Project-specific modeling and other required impact analyses were generally conducted using data and methods described in the *Idaho Air Quality Modeling Guideline*².

3.3.3 Model Selection

Idaho Air Rules Section 202.02 requires that estimates of ambient concentrations be based on air quality models specified in Appendix W. The refined, steady-state, multiple-source, Gaussian dispersion model AERMOD was promulgated as the replacement model for ISCST3 in December 2005. AERMOD retains the single straight-line trajectory of ISCST3, but it includes more advanced algorithms to assess turbulent mixing processes in the planetary boundary layer for both convective and stable stratified layers.

AERMOD version 18081 was used by DEQ for the modeling analyses to evaluate impacts of the facility. This version was the current version at the time the application was received by DEQ.

3.3.4 Meteorological Data

DEQ processed a meteorological dataset from Idaho Falls, Idaho (KIDAI; station ID 725785-24145) covering the years 2012-2016. The upper air soundings required by AERMET were obtained from the Boise airport station (site ID 24131). Surface characteristics were determined by DEQ staff using AERSURFACE version 13016. DEQ modeling staff evaluated annual moisture conditions for the AERSURFACE runs based on thirty years of Idaho Falls airport precipitation data. Conditions were determined to be “wet” for 2014 and 2015, and “dry” for 2016. The years 2012 and 2013 were determined to be “average” for precipitation. Average moisture content is defined as within a 30 percentile of the 30-year mean of 15.8 inches. Calms were relatively low at 1 percent, and less than 1 percent of the data were missing from the 5-year record. AERMINUTE version 15272 was used to process Automated Surface Observing Systems (ASOS) wind data for use in AERMET. AERMET version 18081 was used to process surface and upper air data and to generate a model-ready meteorological data input file. The “adjust u star” (ADJ_U*) option was applied in AERMET to enhance model performance during low wind speeds under stable conditions. DEQ determined that these data are adequately representative of the meteorology at the HK facility for minor source permitting.

3.3.5 Effects of Terrain on Modeled Impacts

Terrain effects on dispersion were not considered in the analyses since it was uncertain where the PBR rock crushing facility might locate on the Idaho Falls site. DEQ contends that assuming flat terrain is not a critical limitation of the analyses because most substantial emission points associated with HMA facilities and rock crushing facilities are near ground-level and the immediate surrounding area is typically flat for dispersion modeling purposes. Emissions sources near ground-level typically have maximum pollutant impacts near the source, minimizing the potential effect of surrounding terrain to influence the magnitude of maximum modeled impacts.

3.3.6 Facility Layout and Downwash

Precise emission point locations were not known and could be variable. Therefore, DEQ conservatively assumed the HMA facility and rock crushing facility are centered on the same coordinates (0.0 meters East, 0.0 meters North) at the center of the polar grid. Table 3 lists modeled coordinates of emission points.

There were no structures identified at the facility that could cause substantial plume downwash. Therefore, the model was run without accounting for plume downwash.

3.3.7 NO_x Chemistry

The atmospheric chemistry of NO, NO₂, and O₃ complicates accurate prediction of NO₂ impacts resulting from NO_x emissions. The conversion of NO to NO₂ can be conservatively addressed through the use of several methods as outlined in a 2014 EPA NO₂ Modeling Clarification Memorandum.³ The guidance outlines a three-tiered approach:

- Tier 1 – assume full conversion of NO to NO₂ where total NO_x emissions are modeled and modeled impacts are assumed to be 100 percent NO₂.
- Tier 2 – use an ambient ratio to adjust impacts from the Tier 1 analysis.
- Tier 3 – use a detailed screening method to account for NO/NO₂/O₃ chemistry such as the Ozone Limiting Method (OLM) or the Plume Volume Molar Ratio Method (PVMRM).

DEQ used the ARM2 method, a Tier 2 analysis method that assumes an ambient equilibrium between NO and NO₂, in which the conversion of NO to NO₂ is predicted using hourly ambient NO_x monitoring data. ARM2 has been adopted by the EPA as a default regulatory Tier 2 option. The default minimum and maximum NO₂/NO_x ratio of 0.5 and 0.9, respectively, were specified in the model.

3.3.8 Ambient Air Boundary

Ambient air is defined in Section 006 of the Idaho Air Rules as “that portion of the atmosphere, external to buildings, to which the general public has access.” To exclude areas of the site from consideration as ambient air, the permittee must have the legal and practical ability to control access to such areas of the site.

3.3.9 Receptor Network

The receptor grid used in DEQ’s analyses met the minimum recommendations specified in the *Idaho Air Quality Modeling Guideline*² and DEQ determined that it was adequate to resolve maximum modeled impacts.

Table 8 describes the receptor network used in the air impact modeling analyses. A polar grid centered on the HMA dryer stack was used to establish minimum setback distances between emission sources and the ambient air boundary that is needed to assure NAAQS compliance. DEQ determined that the receptor network was effective in reasonably assuring compliance with applicable air quality standards at all ambient air locations beyond the final stated setback distance.

3.3.10 Good Engineering Practice Stack Height

An allowable good engineering practice (GEP) stack height may be established using the following equation in accordance with Idaho Air Rules Section 512.03.b:

$H = S + 1.5L$, where:

H = good engineering practice stack height measured from the ground-level elevation at the base of the stack.

S = height of the nearby structure(s) measured from the ground-level elevation at the base of the stack.

L = lesser dimension, height or projected width, of the nearby structure.

All sources from the HK HMA facility and any PBR rock crushing facilities collocating with the HMA are below GEP stack height. However, no buildings were identified that could cause substantial plume downwash, so the model was run without considering downwash.

3.3.11 Generation of Setback Distances

To establish a setback distance, the following procedure was followed for the requested production level and operational configuration:

- 1) Appropriate emissions rates were modeled and background concentrations were added to the resulting impact levels.
- 2) For the operational configuration, pollutant, and averaging period, all receptors with concentrations (modeled value plus background) equal or greater than the NAAQS were plotted, effectively giving a plot of receptors where the standard could be exceeded for that pollutant and averaging period.
- 3) The controlling receptor for each pollutant and averaging period was identified. First, the receptor having a concentration in excess of the NAAQS that was the furthest from the center of the facility was identified. The controlling receptor was the next furthest downwind receptor from that point.
- 4) The minimum required setback distance was calculated. This was the furthest distance between the center of the facility (the drum dryer stack) and the controlling receptor.

4.0 Results for NAAQS Cumulative Impact Level Analyses

Effects on NAAQS compliance resulting from collocation of a PBR rock crushing facility were only assessed for NAAQS with annual averaging periods (annual $PM_{2.5}$ and NO_2) because the permitted HK HMA facility will not operate on any day when the co-contributing crushing facility is operating. The existing HMA permit allows the HMA facility to operate as a portable facility; however, the effects from collocation with a crushing facility were only assessed for the Idaho Falls site. Collocation with a rock crushing facility must only be allowed at the Idaho Falls site.

Table 9 provides a summary of the effects of proposed allowable colocated PBR crushing facilities on required setback distances between the HMA drum dryer stack and the nearest ambient air boundary.

Table 9. SETBACK DISTANCES NEEDED TO ASSURE NAAQS COMPLIANCE				
Pollutant	NAAQS ($\mu\text{g}/\text{m}^3$)^a	Background Concentration^b ($\mu\text{g}/\text{m}^3$)	Allowable Contribution^c ($\mu\text{g}/\text{m}^3$)	Setback Needed^d
PM _{2.5}	12	6.73	5.27	120 m (394 ft)
NO ₂	100	14.08	85.9	<100 m (<328 ft)

a. Micrograms per cubic meter.

b. Specific for the Idaho Falls site.

c. Allowable contribution from combined operation of HMA and collocated crushing facility. Obtained by subtracting the background value from the NAAQS.

d. Setback is the distance from the HMA drum dryer stack to the nearest point of ambient air, which is typically the property boundary or areas where the permittee cannot legally or practically restrict access.

5.0 Conclusions

The information submitted with the PTC application, combined with DEQ air impact analyses, demonstrated to DEQ's satisfaction that revising colocation requirements in the existing permit, as described in this memorandum, will not change conditions in a manner that results in a violation of any applicable ambient air quality standard.

ATTACHMENT 1

EMISSIONS CALCULATIONS AND MODELING PARAMETERS FOR

DEQ'S AIR IMPACT ANALYSES

HMA Facility Modeled Emission Rates

Setback requirements are linked to throughput levels, operational rates, and the equipment configuration.

Emissions from Drum Dryer, Asphalt Loadout, Asphalt Silo Filling, and Asphalt Tank Heater

DEQ's HMA spreadsheet was used to calculate emissions rates for various averaging periods.

Aggregate Handling Emissions

Emissions from aggregate handling were calculated for the following transfers: 1) aggregate to a storage pile by frontend loader; 2) aggregate from a pile to a hopper by frontend loader; 3) three conveyor transfers.

PM_{2.5} emissions associated with the handling of aggregate materials were calculated using emissions factors from AP42 Section 13.2.4.

Emissions were calculated using the following emissions equation:

$$E = k(0.0032) \left[\frac{(U/5)^{1.3}}{(M/2)^{1.4}} \right] \text{ lb/ton}$$

Where:

- k = 0.053 for PM_{2.5}, 0.35 for PM₁₀
- M = 3% for aggregate
- U = wind speed (mph)

A moisture content of 3% to 7% was estimated as a typical moisture content of aggregate entering the dryer, per STAPPA-ALAPCO-EPA, Emission Inventory Improvement Program, Volume II, Chapter 3, Preferred and Alternative Methods for Estimating Air Emissions from Hot Mix Asphalt Plants, Final Report, July 1996. The lower level of moisture combined with an additional 90% emissions control was applied to calculated emissions from the conveyor transfers to account for additional emissions control measures required by Idaho regulations and the permit.

In the model, emissions are varied as a function of windspeed, with the base emissions entered for a windspeed of 10 mph.

upper windspeeds for 6 categories: 1.54, 3.09, 5.14, 8.23, 10.8 m/sec

Median windspeed for each category (1 m/sec = 2.237 mph)

- Cat 1: (0 + 1.54)/2 = 0.77 m/sec > 1.72 mph
- Cat 2: (1.54 + 3.09)/2 = 2.32 m/sec > 5.18 mph
- Cat 3: (3.09 + 5.14)/2 = 4.12 m/sec > 9.20 mph
- Cat 4: (5.14 + 8.23)/2 = 6.69 m/sec > 14.95 mph
- Cat 5: (8.23 + 10.8)/2 = 9.52 m/sec > 21.28 mph
- Cat 6: (10.8 + 14)/2 = 12.4 m/sec > 27.74 mph

Base PM_{2.5} factor – use 10 mph wind: $0.053 (0.0032) \frac{(10/5)^{1.3}}{(3/2)^{1.4}} = 2.367 \text{ E-4 lb/ton}$

Adjustment factors to put in the model:

$$\text{Cat 1: } (1.72/5)^{1.3} (9.614 \text{ E-5}) = 2.401 \text{ E-5 lb/ton}$$

$$\text{Factor} = 2.401 \text{ E-5} / 2.367 \text{ E-4} = 0.1014$$

$$\text{Cat 2: } (5.18/5)^{1.3} (9.614 \text{ E-5}) = 1.007 \text{ E-4 lb/ton}$$

$$\text{Factor} = 1.007 \text{ E-4} / 2.367 \text{ E-4} = 0.4253$$

$$\text{Cat 3: } (9.20/5)^{1.3} (9.614 \text{ E-5}) = 2.124 \text{ E-4 lb/ton}$$

$$\text{Factor} = 2.124 \text{ E-4} / 2.367 \text{ E-4} = 0.8974$$

$$\text{Cat 4: } (14.95/5)^{1.3} (9.614 \text{ E-5}) = 3.993 \text{ E-4 lb/ton}$$

$$\text{Factor} = 3.993 \text{ E-4} / 2.367 \text{ E-4} = 1.687$$

$$\text{Cat 5: } (21.28/5)^{1.3} (9.614 \text{ E-5}) = 6.318 \text{ E-4 lb/ton}$$

$$\text{Factor} = 6.318 \text{ E-4} / 2.367 \text{ E-4} = 2.669$$

$$\text{Cat 6: } (27.74/5)^{1.3} (9.614 \text{ E-5}) = 8.918 \text{ E-4 lb/ton}$$

$$\text{Factor} = 8.918 \text{ E-4} / 2.367 \text{ E-4} = 3.768$$

For the operational scenario of 1,000,000 ton/year HMA, emissions from the loader are as follows (annual throughputs were based on aggregate being 96% of the total HMA production):

Annual PM_{2.5}:

2.367 E-4 lb PM _{2.5}	960,000 ton	yr	2 transfers	=	0.05188 lb
ton	yr	8,760 hour			hr

Emissions from the three conveyor transfers, controlled by 90 percent, are as follows:

Annual PM_{2.5}:

2.367 E-4 lb PM _{2.5}	960,000 ton	yr	3 transfers	(1-0.90)	=	0.007782 lb
ton	yr	8,760 hour				hr

Total aggregate handling emissions:

$$\text{Annual PM}_{2.5}: 0.05188 \text{ lb/hr} + 0.007782 \text{ lb/hr} = 0.05966 \text{ lb/hr}$$

Throughputs were based on aggregate being 96% of the total HMA production.

Screening Emissions

This HMA plant uses one scalping screen. A PM_{2.5} factor for uncontrolled emissions was not available in AP42. A PM_{2.5} factor was estimated by DEQ permit writers and entered into the HMA calculation spreadsheet. The uncontrolled emissions factor was used and a 90% reduction applied to calculated emissions to account for additional emissions control measures required by Idaho regulations and the permit.

Throughputs were based on aggregate being 96% of the total HMA production.

For the operational scenario 1,000,000 ton/year HMA, emissions are as follows:

Scalping Screen (controlled emissions):

Annual PM_{2.5}:

$$\frac{0.000130 \text{ lb PM}_{10}}{\text{ton}} \times \frac{960,000 \text{ ton}}{\text{yr}} \times \frac{\text{yr}}{8,760 \text{ hour}} \times (1-0.90) = \frac{0.001425 \text{ lb}}{\text{hr}}$$

HMA Facility Modeling Parameters

Dryer baghouse Stack

Release height = 9.1 meters (30 feet); effective diameter of release area = 1.3 meters (4.3 feet); typical stack gas temperature = 418 K; typical flow velocity = 25 meters/second (82 feet/second)

Asphalt Silo Filling

DEQ modeled this source as a point source.

- release height of 9 meters.
- stack diameter of 3 meters, corresponding to the approximate diameter of the silo.
- gas temperature was estimated at half the AP42 default asphalt temperature: $325^{\circ}\text{F}/2 = 163^{\circ}\text{F}$ (346 K)
- stack velocity of 0.1 m/sec to account for convective air flow.

Asphalt Loadout

DEQ modeled this source as a point source.

- release height of 3.5 meters
- stack diameter of 3 meters, corresponding to the approximate diameter of the silo.
- gas temperature was estimated at half the AP42 default asphalt temperature: $325^{\circ}\text{F}/2 = 163^{\circ}\text{F}$ (346 K)
- stack velocity of 0.1 m/sec to account for convective air flow.

Aggregate to and from Storage and Conveyor Transfers

Release emissions in model from a 30 meters X 30 meters area 6 meters high, released at 3 m. They are modeled as a volume source not on or adjacent to a structure.

Initial dispersion coefficients:

$$\sigma_{y0} = 30 \text{ m} / 4.3 = 7.0 \text{ m}$$

$$\sigma_{z0} = 6 \text{ m} / 4.3 = 1.4 \text{ m}$$

Sources include: five transfers, equivalent in emissions to that of a frontend loader, from the point of aggregate delivery to transfer to the HMA plant hopper, and three conveyor transfers.

Scalping Screen

This source was modeled as a single volume source not on or adjacent to a structure 3 meters X 3 meters, 6.0 meters thick, with a release height of 3.0 meters. The initial dispersion coefficients are calculated as follows:

$$\sigma_{y0} = 3 \text{ m} / 4.3 = 0.70 \text{ m}$$

$$\sigma_{z0} = 3 \text{ m} / 4.3 = 0.70 \text{ m}$$

Asphalt Oil Heater

Release height = 3.7 meters (12 feet); effective diameter of release area = 0.30 meters (1.0 feet); typical stack gas temperature = 422 K; typical flow velocity = 10 meters/second (33 feet/second).

PBR Rock Crushing Facility Modeled Emission Rates

Aggregate Handling Emissions

Emissions from aggregate handling were calculated for the following transfers: 1) two transfers by frontend loader; 2) three conveyor transfers.

PM_{2.5} emissions associated with the handling of aggregate materials were calculated using emissions factors from AP42 Section 13.2.4.

Emissions were calculated using the following emissions equation:

$$E = k(0.0032) \left[\frac{(U/5)^{1.3}}{(M/2)^{1.4}} \right] \text{ lb/ton}$$

Where:

- k = 0.053 for PM_{2.5}, 0.35 for PM₁₀
- M = 3% for aggregate
- U = wind speed (mph)

A moisture content of 3% to 7% was estimated as a typical moisture content of aggregate entering the dryer, per STAPPA-ALAPCO-EPA, Emission Inventory Improvement Program, Volume II, Chapter 3, Preferred and Alternative Methods for Estimating Air Emissions from Hot Mix Asphalt Plants, Final Report, July 1996. The lower level of moisture combined with an additional 75% emissions control was applied to calculated emissions from the conveyor transfers to account for reasonable emission control measures required by Idaho regulations and the permit.

In the model, emissions are varied as a function of windspeed, with the base emissions entered for a windspeed of 10 mph.

upper windspeeds for 6 categories: 1.54, 3.09, 5.14, 8.23, 10.8 m/sec

Median windspeed for each category (1 m/sec = 2.237 mph)

- Cat 1: $(0 + 1.54)/2 = 0.77 \text{ m/sec} \gg 1.72 \text{ mph}$
- Cat 2: $(1.54 + 3.09)/2 = 2.32 \text{ m/sec} \gg 5.18 \text{ mph}$
- Cat 3: $(3.09 + 5.14)/2 = 4.12 \text{ m/sec} \gg 9.20 \text{ mph}$
- Cat 4: $(5.14 + 8.23)/2 = 6.69 \text{ m/sec} \gg 14.95 \text{ mph}$
- Cat 5: $(8.23 + 10.8)/2 = 9.52 \text{ m/sec} \gg 21.28 \text{ mph}$
- Cat 6: $(10.8 + 14)/2 = 12.4 \text{ m/sec} \gg 27.74 \text{ mph}$

Base PM_{2.5} factor – use 10 mph wind: $0.053 (0.0032) \frac{(10/5)^{1.3}}{(3/2)^{1.4}} = 2.367 \text{ E-4 lb/ton}$

Adjustment factors to put in the model:

$$\text{Cat 1: } (1.72/5)^{1.3} (9.614 \text{ E-5}) = 2.401 \text{ E-5 lb/ton}$$

$$\text{Factor} = 2.401 \text{ E-5} / 2.367 \text{ E-4} = 0.1014$$

$$\text{Cat 2: } (5.18/5)^{1.3} (9.614 \text{ E-5}) = 1.007 \text{ E-4 lb/ton}$$

$$\text{Factor} = 1.007 \text{ E-4} / 2.367 \text{ E-4} = 0.4253$$

$$\text{Cat 3: } (9.20/5)^{1.3} (9.614 \text{ E-5}) = 2.124 \text{ E-4 lb/ton}$$

$$\text{Factor} = 2.124 \text{ E-4} / 2.367 \text{ E-4} = 0.8974$$

$$\text{Cat 4: } (14.95/5)^{1.3} (9.614 \text{ E-5}) = 3.993 \text{ E-4 lb/ton}$$

$$\text{Factor} = 3.993 \text{ E-4} / 2.367 \text{ E-4} = 1.687$$

$$\text{Cat 5: } (21.28/5)^{1.3} (9.614 \text{ E-5}) = 6.318 \text{ E-4 lb/ton}$$

$$\text{Factor} = 6.318 \text{ E-4} / 2.367 \text{ E-4} = 2.669$$

$$\text{Cat 6: } (27.74/5)^{1.3} (9.614 \text{ E-5}) = 8.918 \text{ E-4 lb/ton}$$

$$\text{Factor} = 8.918 \text{ E-4} / 2.367 \text{ E-4} = 3.768$$

For the operational scenario of 352,800 ton/year crushed rock, emissions from the loader are as follows:

Annual PM_{2.5}:

2.367 E-4 lb PM _{2.5}	352,800 ton	yr	2 transfers	=	0.01907 lb
ton	yr	8,760 hour			hr

Emissions from the three conveyor transfers are as follows:

Annual PM_{2.5}:

2.367 E-4 lb PM _{2.5}	352,800 ton	yr	3 transfers	(1-0.75)	=	0.007150 lb
ton	yr	8,760 hour				hr

Total aggregate handling emissions:

$$\text{Annual PM}_{2.5}: 0.01907 \text{ lb/hr} + 0.007150 \text{ lb/hr} = 0.02622 \text{ lb/hr}$$

Crushing and Screening Emissions

Crushing emissions were based on tertiary crushing emission factors in EPA's AP-42, Section 11.19.2 *Crushed Stone Processing and Pulverized Mineral Processing*, Table 11.19.2-2. Screening emissions were also based on factors from this table in AP-42. AP-42 provides PM₁₀ emission factors but does not list PM_{2.5} factors. PM_{2.5} factors were generated by multiplying PM₁₀ factors by 0.15 based on the PM_{2.5}/PM₁₀ ratio (*Background Document for Revisions to Fine Fraction Ratios Used for AP-42 Fugitive Emission Factors*, prepared for the WRAP by Midwest Research Institute, Feb. 1, 2006). It was assumed that crushing and screening emissions would be controlled by 90 percent for using high moisture materials or applying water to control emissions, consistent with control measures used in the HMA emission calculation spreadsheet.

For the operational scenario of 352,800 ton/year crushed rock, emissions from crushing are as follows:

Annual PM_{2.5}:

$$\frac{3.6 \text{ E-4 lb PM}_{2.5}}{\text{ton}} \times \frac{352,800 \text{ ton}}{\text{yr}} \times \frac{\text{yr}}{8,760 \text{ hour}} \times (1-0.75) = \frac{0.003625 \text{ lb}}{\text{hr}}$$

For the operational scenario of 352,800 ton/year crushed rock, emissions from screening are as follows:

Annual PM_{2.5}:

$$\frac{1.3 \text{ E-3 lb PM}_{2.5}}{\text{ton}} \times \frac{352,800 \text{ ton}}{\text{yr}} \times \frac{\text{yr}}{8,760 \text{ hour}} \times (1-0.75) = \frac{0.01309 \text{ lb}}{\text{hr}}$$

Total crushing and screening emissions:

$$\text{Annual PM}_{2.5}: 0.003625 \text{ lb/hr} + 0.01309 \text{ lb/hr} = 0.01671 \text{ lb/hr}$$

IC Engine Emissions

Emissions from the IC engine were calculated using factors from EPA's *AP-42, Section 3.4 Large Stationary Diesel and All Stationary Dual-fuel Engines*, Table 3.4-1. The emission factors are as follows:

NOx = 0.024 pounds/hp-hour

PM = 0.0007 pounds/hp-hour (assume PM=PM_{2.5})

For a 4,100 hp diesel engine operating 1800 hours/year, emissions are as follows:

$$\frac{0.0007 \text{ lb PM}_{2.5}}{\text{hp - hour}} \times 4,100 \text{ hp} \times \frac{1,800 \text{ hour}}{\text{yr}} \times \frac{\text{yr}}{8,760 \text{ hour}} = \frac{0.590 \text{ lb PM}_{2.5}}{\text{hr}}$$

$$\frac{0.024 \text{ lb NOx}}{\text{hp - hour}} \times 4,100 \text{ hp} \times \frac{1,800 \text{ hour}}{\text{yr}} \times \frac{\text{yr}}{8,760 \text{ hour}} = \frac{20.2 \text{ lb PM}_{2.5}}{\text{hr}}$$

Rock Crushing Facility Modeling Parameters

Frontend Loader Aggregate Handling and Conveyor Transfers

Release emissions in model from a 30 meters X 30 meters area 6 meters high, released at 3 meters. They are modeled as a volume source not on or adjacent to a structure.

Initial dispersion coefficients:

$$\sigma_{y0} = 30 \text{ m} / 4.3 = 7.0 \text{ m}$$

$$\sigma_{z0} = 6 \text{ m} / 4.3 = 1.4 \text{ m}$$

Sources include: four transfers, equivalent in emissions to that of a frontend loader, for the point of transfer to a hopper and three conveyor transfers.

Crusher and Screen

Release emissions in model from a 10 meters X 10 meters area 6 meters high, released at 3 meters. They are modeled as a volume source not on or adjacent to a structure.

Initial dispersion coefficients:

$$\sigma_{yo} = 10 \text{ m} / 4.3 = 2.33 \text{ m}$$

$$\sigma_{zo} = 6 \text{ m} / 4.3 = 1.40 \text{ m}$$

Sources include: Rock crusher and screen.

IC Engine

Stack height of the IC engine powering the crushing plant (C_ENG) will be at least 3.0 meters.

Stack gas temperatures and flow rates are often overestimated by permit applicants, likely because values reported by manufacturers are often based on values measured at the exhaust manifold rather than at the point of release to the atmosphere.

DEQ modeled the engine emissions at an exit gas temperature of 600 K. Exhaust flows were calculated using the following formula from the State of Washington Department of Ecology (Washington State Department of Ecology. *Suitability of Diesel-Powered Emergency Generators for Air Quality General Order of Approval: Evaluation of Control Technology, Ambient Impacts, and Potential Approval Criteria*. June 23, 2006):

$$\text{Flow} = 0.284 \text{ m}^3/(\text{sec} \cdot 100 \cdot \text{hp})$$

The stack diameter was set such that the flow velocity was 44.6 meters/second (as per WA guidance). Since multiple engines could be used and combining all plumes into one point for a 4,100 bhp engine could substantially overstate flows and resulting plume rise, DEQ used flow characteristics associated with a 500 bhp engine.

The final point source parameters for a 500 bhp engine (C_ENG) were as follows:

Stack height = 3.0 m; stack diameter = 0.201 meters; stack gas temperature = 600K; flow velocity = 44.6 meters/second.

References

1. *Policy on NAAQS Compliance Demonstration Requirements*. Idaho Department of Environmental Quality Policy Memorandum. July 11, 2014.
2. *State of Idaho Guideline for Performing Air Quality Impact Analyses*. Idaho Department of Environmental Quality. September 2013. State of Idaho DEQ Air Doc. ID AQ-011. Available at <http://www.deq.idaho.gov/media/1029/modeling-guideline.pdf>.
3. *Clarification on the Use of AERMOD Dispersion Modeling for Demonstrating Compliance with the NO₂ National Ambient Air Quality Standard*. Office of Air Quality Planning and Standards. Air Quality Modeling Group. Research Triangle Park, NC. Guidance memorandum from R. Chris Owen and Roger Brode to Regional Dispersion Modeling Contacts. September 30, 2014.

APPENDIX B – FACILITY DRAFT COMMENTS

The following comments were received from the facility on June 27, 2019:

Facility Comment: The facility commented on Table 1 of the draft permit and Permit Condition 13 of the draft permit regarding fuel type for the HMA drum dryer: *"Can we add propane to this list without issues?"*

DEQ Response: Propane is added to Table 1.1 of the final permit and Permit Condition 2.9 of the final permit as a fuel type for the HMA drum dryer. DEQ HMA EI spreadsheet was used to exam whether adding propane as a fuel would alter the outcome of the EI spreadsheet. The outcome of the EI spreadsheet did not change after adding propane as a fuel in the input worksheet of the EI spreadsheet.

Facility Comment: The facility commented on Table 1 of the draft permit regarding the fuel consumption rate of the HMA drum dryer and the maximum fuel usage of the asphalt tank heater: *"What does this gal/hr apply to?"*

DEQ Response: 730 gal/hr for the HMA drum dryer and 20.6 gal/hr for the asphalt tank heater were in the initial PTC issued on 5/7/2009 and were taken from the permit application FORM AQ-F-P007 received 9/26/2008. They are the maximum burner fuel usage rates provided in that application.

Facility Comment: The facility has requested to remove "and covered" from Permit Condition 5 of the draft permit.

DEQ Response: Since this is beyond the scope of this application and I don't have the information to ensure this change would not affect emissions from the facility, the requested change is not made.

Facility Comment: The facility commented on Permit Condition 23 of the draft permit regarding the measured concentration in used oil: *"can we drop the volume since the certs show by weight instead of volume?"*

DEQ Response: the change is made from "ppmv" to "ppm".

Facility Comment: The facility commented on Permit Condition 36.1 of the draft permit regarding the interpretation of "is under control" of HK Contractors: *"Does the highlighted statement mean I can use a subcontractor to crush as long as we monitor them and the crusher is a PBR?"*

DEQ Response: Yes, the interpretation is correct.

Facility Comment: The facility has requested to add *"that is used with the pbr crusher"* to Permit Condition 36.3(d) of the draft permit for clarification purpose.

DEQ Response: It is added to Permit Condition 3.4 of the final permit.

Facility Comment: The facility has requested to change Permit Condition 43 of the draft permit regarding remediation of waste oil and used oil contaminated soil and aggregate.

DEQ Response: Since this is beyond the scope of this application and I don't have the information to ensure this change would not affect emissions from the facility, the requested change is not made.

APPENDIX C – PROCESSING FEE

PTC Processing Fee Calculation Worksheet

Instructions:

Fill in the following information and answer the following questions with a Y or N. Enter the emissions increases and decreases for each pollutant in the table.

Company:
Address:
City:
State:
Zip Code:
Facility Contact:
Title:
AIRS No.:

Y Does this facility qualify for a general permit (i.e. concrete batch plant, hot-mix asphalt plant)? Y/N

N Did this permit require engineering analysis? Y/N

N Is this a PSD permit Y/N (IDAPA 58.01.01.205.04)

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO _x	0.0	0	0.0
SO ₂	0.0	0	0.0
CO	0.0	0	0.0
PM10	0.0	0	0.0
VOC	0.0	0	0.0
Total:	0.0	0	0.0
Fee Due	\$ 500.00		

Comments: